



## Depersonalization/derealization during acute social stress in social phobia



Juergen Hoyer<sup>a,\*</sup>, David Braeuer<sup>a</sup>, Stephen Crawcour<sup>a</sup>, Elisabeth Klumbies<sup>b</sup>, Clemens Kirschbaum<sup>b</sup>

<sup>a</sup> Institute of Clinical Psychology and Psychotherapy, Technische Universitaet Dresden, Germany

<sup>b</sup> Institute of Biopsychology, Technische Universitaet Dresden, Germany

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### ABSTRACT

The present study aimed at investigating how frequently and intensely depersonalization/derealization symptoms occur during a stressful performance situation in social phobia patients vs. healthy controls, as well as testing hypotheses about the psychological predictors and consequences of such symptoms.

$N = 54$  patients with social phobia and  $N = 34$  control participants without mental disorders were examined prior to, during, and after a standardized social performance situation (Trier Social Stress Test, TSST). An adapted version of the Cambridge Depersonalization Scale was applied along with measures of social anxiety, depression, personality, participants' subjective appraisal, safety behaviours, and post-event processing.

Depersonalization symptoms were more frequent in social phobia patients (92%) than in controls (52%). Specifically in patients, they were highly positively correlated with safety behaviours and post-event-processing, even after controlling for social anxiety.

The role of depersonalization/derealization in the maintenance of social anxiety should be more thoroughly recognized and explored.

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### 1. Introduction

Social phobia (SP, also defined as social anxiety disorder, SAD) is characterized by persistent fears of one or more social situations in which the person is exposed to others and expects to be scrutinized. Those affected fear acting in an embarrassing way (American Psychiatric Association, 2000). According to the DSM-IV-TR criteria, such fears are recognized as unreasonable and excessive. Nevertheless, exposure to such feared situations may invariably trigger anxiety, with levels possibly escalating to panic attacks. SP is related to clinically significant distress, as well as impairment in social, occupational, or other important areas of functioning (American Psychiatric Association, 2000). Comorbid psychopathology (other anxiety disorders, mood disorders, substance abuse) is common (e.g., Fehm, Beesdo, Jacobi, & Fiedler, 2008).

Current psychological models of social phobia emphasize the role of cognitive factors for the development and maintenance of the disorder (Clark & Wells, 1995; Hofmann, 2007; Clark, 2001; Rapee & Heimberg, 1997), which include high social

standards, social apprehension, heightened self-focused attention, negative self-perception, high estimated social costs, low perceived emotional control, perceived poor social skills, anticipation of social mishaps, avoidance and safety behaviours, and post-event rumination. To the best of our knowledge however, symptoms of depersonalization or derealization have not been explicitly integrated in any of these models although clinical data suggest that these symptoms are associated with social anxiety (e.g., Michal et al., 2005; Simeon, Knutelska, Nelson, & Guralnik, 2003).

Depersonalization and derealization are defined as subjective experiences of unreality in one's sense of self (depersonalization, DP) and the outside world (derealization, DR) (Simeon, 2004). These symptoms, which have been known already in the early psychopathology literature (Schilder, 1914) by the term *autoscopia*, occur in a continuum ranging from transient episodes in healthy individuals under specific conditions to mental and emotional disorders including depersonalization disorder (DPD; Hunter, Phillips, Chalder, Sierra, & David, 2003). A maximal expression of DP/DR as observed in DPD may include symptoms such as e.g., emotional numbing, lack of empathy, a sense of isolation, a dream-like state, impaired concentration, "mind numbness" or "racing thoughts," memory impairments, difficulties in processing new information, dizziness and sensory distortions, or an altered perception of time (American Psychiatric Association, 2000).

\* Corresponding author at: Technische Universität Dresden, Klinische Psychologie und Psychotherapie, Hohe Str. 53, D-01187 Dresden, Germany.  
Tel.: +49 351 46336986; fax: +49 351 46336955.

E-mail address: [hoyer@psychologie.tu-dresden.de](mailto:hoyer@psychologie.tu-dresden.de) (J. Hoyer).

Transient DP/DR symptoms are also typical for many anxiety disorders, especially for post-traumatic stress disorder (PTSD). DP/DR in PTSD may occur either during the trauma (i.e., peritraumatically) or in the immediate aftermath of the trauma (for an overview see Bryant, 2007). Peritraumatic DP/DR have been suggested to minimize adverse emotional reactions to occurring traumatic events by restricting awareness of their experience (e.g., Putnam, 1989) with the result of impairing access to critical memories and thus to emotional processing of the trauma (Marmar et al., 1994).

Furthermore, DP and DR represent common symptoms occurring during panic attacks (e.g., Ball, Robinson, Shekhar, & Walsh, 1997; Cassano et al., 1989; Márquez, Seguí, García, Canet, & Ortiz, 2001; Seguí et al., 2000; Toni et al., 1996). Importantly, Márquez et al. (2001) and others (Cassano et al., 1989; Toni et al., 1996) found that patients with panic disorder presenting DP displayed a lower level of functioning, a greater clinical severity (i.e., higher number of panic attacks, higher state anxiety, anticipatory anxiety, agoraphobia, comorbidity with specific phobia), in addition to a greater phobic avoidance relative to panic disorder with no DP.

As panic attacks can occur in every anxiety disorder (e.g., Rapee, Sanderson, McCauley, & DiNardo, 1992) many anxiety patients may experience sensations of “unreality.” In phobias, however, these states may only occur during active confrontation with the feared stimulus. Symptom reporting of these patients may mainly refer to avoidance and associated negative consequences, as opposed to the symptoms occurring during the actively avoided situations. The latter problem may be relevant in social phobia, as patients suffering from this disorder may particularly shy away from reporting “unusual” states of mind.

Little research has been performed examining the occurrence of DR and/or DP in social phobia. Nevertheless there is some evidence that their role in the disorder should not be neglected (e.g., Michal et al., 2005, 2006; Simeon et al., 2003). Although Clark and Wells (1995) do not mention DP or DR in their model when referring to the anxiety induced deficits in SP, data from their group demonstrated that social phobia patients, other than controls, tend to take on an “observer perspective” (Wells, Clark, & Ahmad, 1998) and experience a heightened self-focused attention (Spurr & Stopa, 2003) in social situations. In this study, however, it was not examined whether such phenomena occurred deliberately or were rather experienced as subjectively uncontrollable symptoms.

Furthermore, particularly when undergoing test and other social performance situations, those suffering from social phobia have been described as presenting symptoms including self-perceptions from an observer perspective, the feeling of one’s mind going blank and sensory distortions (Fehm & Fydrich, 2011; Michal et al., 2005). These symptoms can be well identified as symptoms of DP/DR. Their more elaborate description in social phobia and their integration in models of the disorder may enhance its understanding and shed light on the processes underlying its maintenance. Studies on DP/DR in SP have mostly employed scales and questionnaires, querying psychotherapy patients about their DP/DR symptoms (e.g., Michal et al., 2005). As expected, those patients with pathological DP/DR symptoms received an SP diagnosis more frequently than those presenting no such symptoms (Michal et al., 2006). Further, moderately strong correlations (i.e., between 0.53 and 0.62) were found between social anxiety and DP/DR symptoms in both psychotherapy patients and healthy controls (Michal et al., 2005). Other researchers (Simeon et al., 2003) also detected fulfilment of the criteria for comorbid SP in 47% of patients with DPD, as well as in 30% of patients with avoidant personality disorder. SP, along with depression and panic disorder was also found to be a predictor for comorbid DPD with an odds ratio of 3.7 in the general population (Michal et al., 2009).

The scarcity of research on DP/DR in SP might be explained by the methodological challenges regarding their accurate detection. Studies like those cited above rely on questionnaire methodology and make a number of biases probable, including, e.g., the memory or recall bias, as found in other clinical populations (e.g., Mathews & Bradley, 1983). Based on his/her present affective status, the individual will either over- or underreport relevant symptoms, which might have occurred in the past. Moreover, other authors criticize that retrospective reporting of symptoms is strongly influenced by implicit references to one’s self-concept, an effect known as *consistency bias* (Leising, 2011; Sadler & Woody, 2003).

In contrast, observational studies, which would directly measure DP/DR symptoms exactly during their occurrence, cannot be meaningfully conducted, as directly asking people whether they are experiencing these symptoms would change both the situation and the natural occurrence of DP/DR. Conversely, ways of detecting DP/DR other than interview or self-report methodology, would not be appropriate, as DP/DR are only observable by introspection and objective measures for DP/DR have yet to be defined. Due to these problems it is not surprising that, to the best of our knowledge, no studies have investigated DP/DR in situ in social phobia.

Accordingly, central questions about the role of DP/DR in SP remain unanswered. It remains unknown, how frequent DP/DR occur in social stress situations in SP and how these symptoms are perceived. Also, there is little information on possible predictors and consequences of DP/DR (e.g., how they are interrelated to other psychological variables such as anxiety and depression). An especially important question is whether DP/DR might contribute to further avoidance of social situations, thus contributing to the maintenance of the disorder. Given that DP/DR are known to be experienced as highly aversive (e.g., Ackner, 1954; Hunter et al., 2003), we find it plausible that efforts to reduce anxiety levels eliciting or co-occurring with DP/DR might already be initiated during the situation. Simply put, individuals who are experiencing DP/DR might strongly tend to exhibit safety behaviours (Clark & Wells, 1995) during the situation.

As DP/DR are typically not part of the everyday experience, individuals might conceive them as evidence for a dysfunction. They might tend to ruminate longer and more intensely over the situation than other individuals, a process which has been termed post-event processing (Clark & Wells, 1995) or post-event rumination (Abbott & Rapee, 2004). As it is presently not clear whether post-event processing after social situations is specific for SP (Fehm, Schneider, & Hoyer, 2007) or not (McEvoy & Kingsep, 2006), we expect post-event processing to be higher after having experienced DP/DR in a social situation (as opposed to not) in *all* participants of our study.

In the present study we intended to solve at least some of the above mentioned methodological problems and to answer the questions raised. Our basic starting point was the idea of using a standardized paradigm known to reliably elicit strong reactions of social stress, and having the participants report on DP/DR directly after this situation. The Trier Social Stress Test (TSST; Kirschbaum, Pirke, & Hellhammer, 1993) offers excellent opportunities to examine whether social performance elicits not only typical symptoms of stress but also those of DP/DR. It is a standardized experimental procedure through which a moderate level of psychological stress can be induced in a laboratory setting. The protocol comprises an anticipation and a test period during which participants are required to stand in front of an audience and deliver a free speech or perform a mental arithmetic task (Kirschbaum et al., 1993).

To examine patients with SP while applying the TSST has the advantage that the test situation is standardized and can be objectively described. Thus, no situational variance would explain differences in psychological outcomes. Moreover, we planned to ask the respondents *directly* after having undergone the TSST about

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